

Poor weight gain Approach and case studies

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Poor Weight Gain

Supplementing with formula is not
all there is in the repertoire

Not enough milk

- ❖ Do some mothers not produce enough?
- Yes, just as some people do not produce enough insulin or thyroid hormone
- But why should these women not breastfeed?
- there is *more* to breastfeeding than *breastmilk*
- ❖ We sometimes act as if *some* breastmilk is worse than *none*





Milk insufficiency

- a. Breast surgery
 - Breast reduction surgery
 - Breast augmentation through the areola
 - *Any* breast surgery with periareolar incision
 - A complete peri-areolar incision is a problem; less complete ones are less of a problem, maybe, but still may result in less milk, depending on how complete the incision is
 - However, many women with breast reduction do produce enough milk, but *not* the majority

Breast reduction



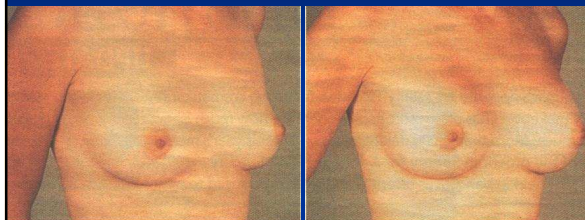
Incision for biopsy



Not the way to drain an abscess



Augmentation. Is it really worth it?



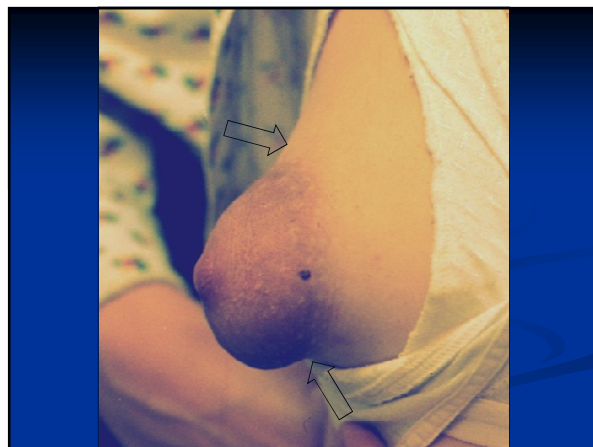
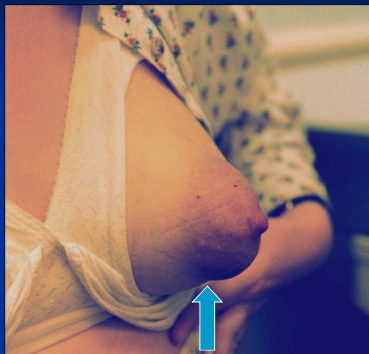
Milk insufficiency

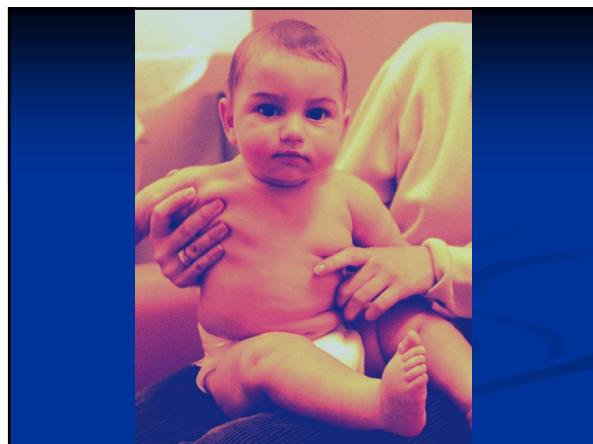
- b. Retained placental fragments
 - Not always, because not all placental fragments produce hormones...
- c. Some endocrinologic syndromes
 - Sheehan's syndrome-rare
 - ?Severe blood loss without shock
 - Polycystic ovarian syndrome (consider metformin)
 - ?hypothyroidism

Milk insufficiency

- d. Maternal use of oestrogens
 - Birth control pill!
 - IUD's with slow release progesterone (Mirena)?
 - Yes!
 - Topical oestrogens?
 - Maybe, but unlikely to cause problems since systemic absorption is minimal; or is it?
- e. Insufficient glandular tissue?
 - Take care on this one
- f. secondary to poor, ineffective breastfeeding

Insufficient breast tissue?





The baby doesn't get the milk that is available

- ❖ *The cause of poor weight gain*
- ❖ The most common reason is a poor start, a poor latch and poor advice
 - For example, feed the baby 10 minutes/side
 - A poor latch is often due to the effects of birth practices (IV fluids, epidural analgesia, etc)
- ❖ Of course, it is then possible for the milk supply to decrease secondarily to poor draining of the milk from the breast
- ❖ *Secondary* milk decrease is not necessarily easy to turn around

Protocol for poor weight gain

- ❖ **Step 1: Get the best latch possible**
 - The better the latch, the more of the mother's milk the baby will get
 - If nipples are sore, making the feedings painless will help a mother put in the effort necessary

Anatomy of the breast



Righard L, Alade MO. Sucking technique and its effect on success of breastfeeding *Birth* 1992;19 (4):185-9

Two groups → Three groups

- ❖ Included *only* those *exclusively* breastfeeding in hospital (97% of babies during the study period)
- ❖ All babies evaluated at 4 to 6 days after birth by the same person
- 1. Well latched on (control group) (n=28)
- 2. "Nipple sucking", randomly assigned to:
 - Latch corrected (5-10 minutes instruction) (n=29)
 - Latch not corrected (n=25)

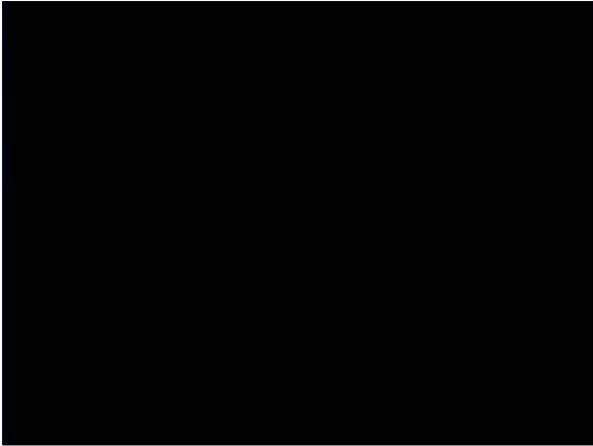
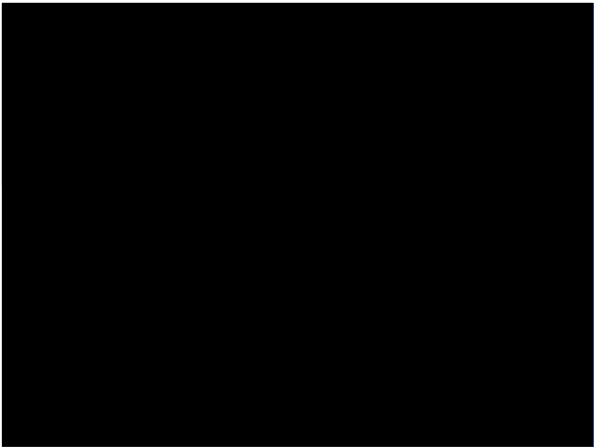
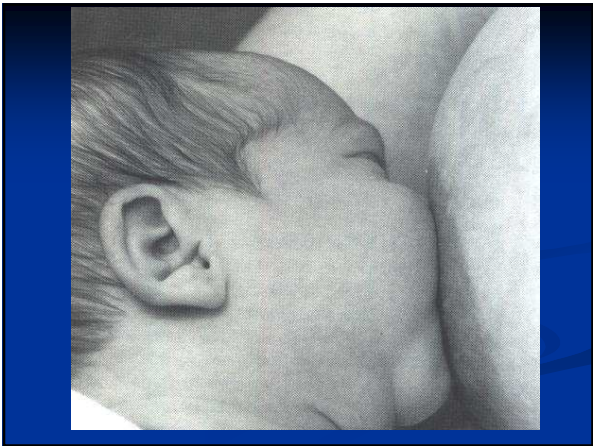
Some results

- ❖ "A change-over from breast to bottle within the first month was 10 times more common in the nipple-sucking group (36%, 9/25) than in those with a correct technique" (Correct and corrected groups together) (3.5%, 2/57) $P < 0.001$
- ❖ "The respective proportions of mothers still breastfeeding, exclusively or partly, were 64% vs 96.5% at one month, 48% vs 84% at 2 months, 44% vs 79% at 3 months, 40% vs 74% at 4 months ($p < 0.01$ in all cases)"

In the conclusion

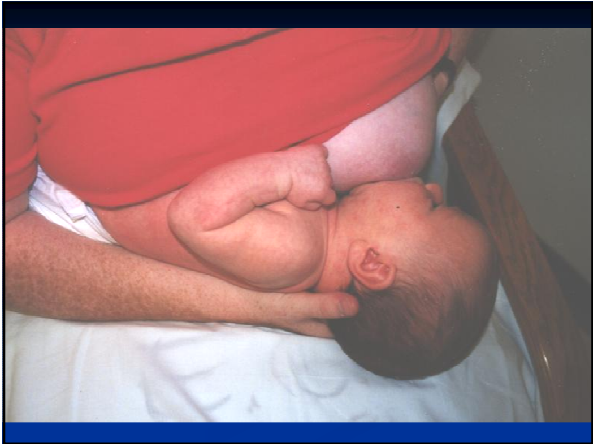
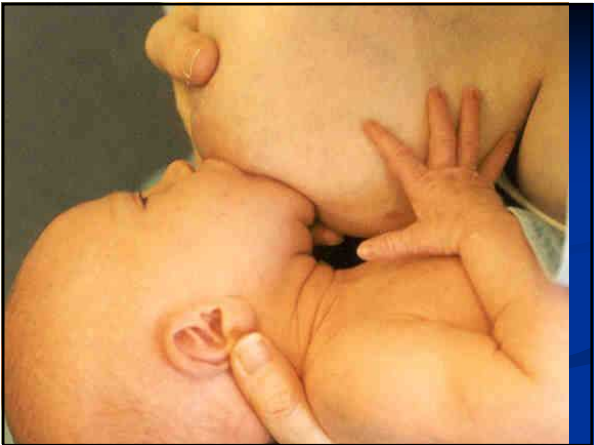
- ❖ "A striking finding in this study was that it was possible to identify and correct a faulty sucking technique in the maternity ward, and thereby improve the women's chances of achieving successful breastfeeding"
- ❖ This can be seen as a burden or an opportunity
- ❖ Very little we do in medicine can be as gratifying as helping a mother succeed at breastfeeding
- There are long term implications for the mother-baby relationship that go way beyond the health "benefits" of breastfeeding

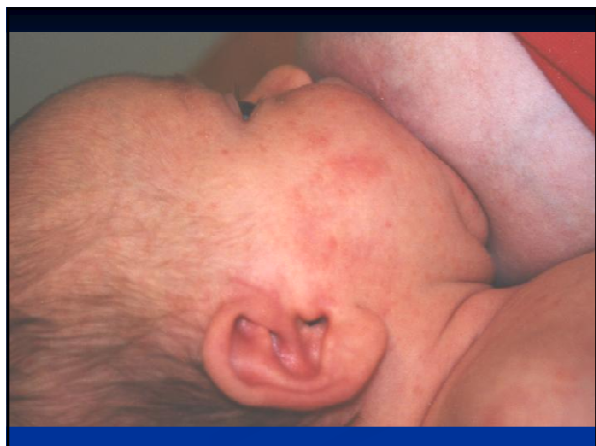












Protocol for poor weight gain

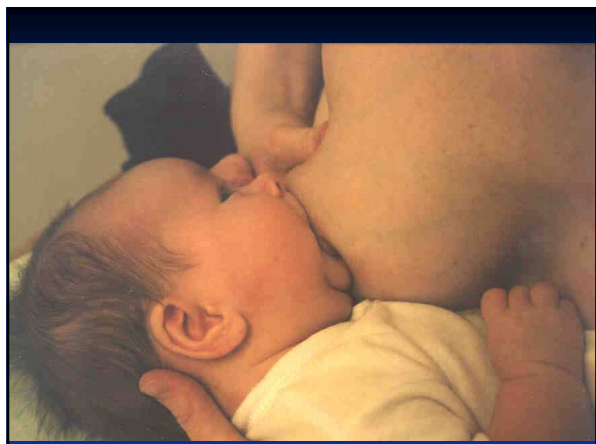
- ❖ Step 2: Know how to know the baby is getting milk (not just sucking)
- Open mouth wide → *pause* → close mouth type of sucking
- See the videos at our website www.nbci.ca
- Babies do the same pause on a bottle, finger feeding
- Adults do the pause when drinking from a glass

Video clips 1-4

Protocol for poor weight gain

- ❖ Step 3: Use compression when the baby no longer drinks on his own
- Compress when the baby sucks but does not *drink*, *not* when he is *not* sucking
- Compressing when the baby is *not* sucking will make him suck, but the mother and baby work together if she waits for him to suck

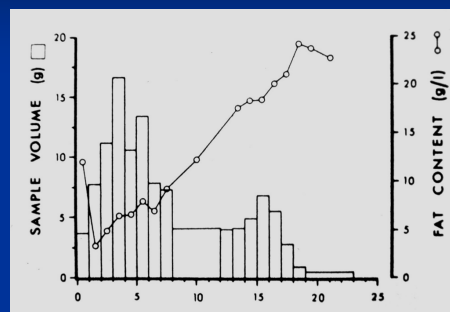




Protocol for poor weight gain

- ❖ Step 4: When the baby no longer drinks on his own or with compression, change sides and repeat the process
- Do not tell the mother to feed on just one side!
- Secret: if the baby is not drinking (getting milk), then he's not getting "hind milk"!!!

Variation in fat content during a single feeding



Protocol for poor weight gain

- ❖ There is no reason (except sore nipples) not to return to the first side and even go back and forth several times
- Sore nipples is a reason to avoid going back and forth several times, unless, by helping the mother with the latch, you can make the feedings *painless* (see next slide)
- ❖ More milk ejection reflexes may occur even if the compression doesn't seem to be working any more

But, relatch over and over?

- ❖ "If it hurts, the latch is not good"
 - True
 - "So take the baby off and try again"
- ❖ So is this good strategy?
 - Often, the mother gets 5 painful latches instead of 1, causing 5 times as much damage
 - And the mother and baby are both frustrated
 - Who knows how many babies develop breast aversion with this strategy?



Protocol for poor weight gain

- ❖ Step 5: Blessed thistle and fenugreek can be helpful
 - 3 capsules 3 times a day of each or more
 - until the mother smells of fenugreek
 - Works best early in lactation
 - particularly well in the first couple of weeks

Other bits of advice

- ❖ Lie down with the baby in the evening
 - The mother needs sleep, why not get it while the baby nurses?
- ❖ Expressing or pumping?
 - Sure, if the mother is up to it, but *compression* eliminates the “middle man”
 - Too often pumping makes breastfeeding overwhelming and the mother quits
 - Quit pumping, not breastfeeding

What if it doesn't work?

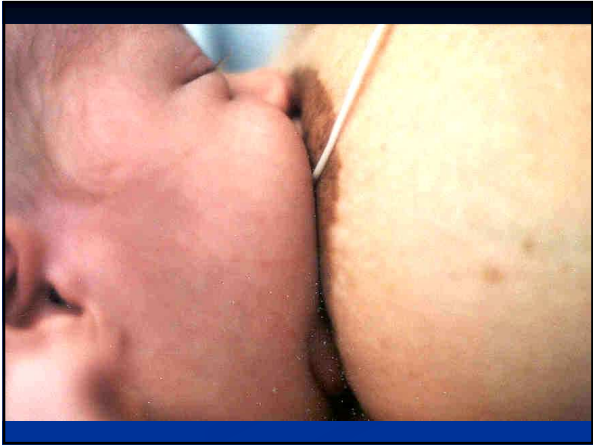
- ❖ Then supplementation may be necessary
 - But if the baby is doing some drinking maybe we can fix things (Protocol) wait a little, a day, a few days...
 - See the video clip “pretty good drinking”
- ❖ If the baby is latching on, the best way to supplement is with a lactation aid *at the breast*

Why?

1. Babies learn to breastfeed *by breastfeeding*
2. Mothers learn to breastfeed *by breastfeeding*
3. The baby *continues to get milk* from the breast even while being supplemented
4. The baby won't refuse the breast
5. There is *more* to breastfeeding than milk

There is *more* to breastfeeding than milk

- ❖ From an email:
 - “I feel almost invincible nursing”
 - “Nursing is magical and makes my toddler sooooo happy”



Everything we do wrong...

- ❖ My daughter gave birth 17 days ago to a small (5lb. 12 oz.) son who appeared to be doing fine at first. His latch was good and by day 5 he had regained 3 of the 6 oz. he had lost. By day 8 he had lost 1 oz and my daughter was worried. Ped/Lact cons. sent her home with instructions to nurse every 2 hours. He was very sleepy and not bfeeding effectively. By day 11 he was down 2 more oz. and Dr. put him on supplement by bottle. He is taking 1.5 to 2 oz. per feeding. He was slightly jaundiced but not alarmingly so. He is not terribly interested in the breast.

This is not the way...

- ❖ “Express your milk and give the baby your milk in a bottle, so we know how much the baby gets”
- ❖ What’s wrong with this?
 1. After figuring out how much the baby gets, the baby may not go back to the breast
- And who says that the amount the mother expresses is what the baby gets at the breast?
- A baby breastfeeding well can get more than the mother can pump
- A baby breastfeeding poorly will get less

This is not the way...

2. If the mother can get enough milk from pumping, the baby should be able to get enough from breastfeeding
 - Fix the breastfeeding!!
3. If the mother can’t get enough from pumping, she will think she doesn’t have enough milk, even though the amount one can pump does not necessarily reflect how much milk the mother is capable of producing

The older baby

- ❖ If the baby is over 3 or 4 months:
 - Consider interfering factors that can be eliminated (and may be specific to this time)
- 1. The mother goes on the birth control pill
- 2. The mother is pregnant
- 3. Maternal medications other than hormones
- 4. Maternal illness
- 5. Can an emotional “shock” dry up the milk?

Why else might the older baby not gain well?

6. Feeding one breast only at each feeding
7. Using bottles more than occasionally
8. Mother trying to be a “supermother”?
9. Other (unknown or same as 10.?)
10. In the first few weeks, babies fall asleep at the breast when the flow slows down; older babies often pull away from the breast when the flow slows down

How does 10. result in late onset slow weight gain?

- ❖ If the baby pulls off when the flow slows, the baby does not “drain” the breast
 - the milk supply decreases a little
- Over weeks, the milk supply continues to decrease a little and the baby spends less and less time on the breast
- Often the baby will pull off the breast after only a couple of minutes and then suck his hand
- Or the baby will just sit on the breast and suck and suck without drinking

Domperidone

- ❖ Not FDA approved in US
- But compounding pharmacies *still* can provide it, *with* prescription (despite the bizarre warning of the FDA in June 2004)
- ❖ It can be had in other ways (www.asklenore.info)
- ❖ It is not a panacea!!
- Works *best* in the situation when the mother once had a good supply but this decreased for some reason
- Still, it helps in most situations

Case study #1

Disaster narrowly averted

Does the mother understand the problem?

- ❖ Baby boy
- Brought to clinic at 4 days of age
- Problem?
- Not latching on to the right breast
- Sore nipples as well, but this is not a problem because “breastfeeding is supposed to hurt”
- *Sigh!*

What do we know from this?

- ❖ According to the mother:
 - Baby feeding about 8 times a day, every three hours
 - Stays on the breast 15 - 20 minutes
 - The baby is calm after feedings
- ❖ What do we know from this?

Nothing, absolutely nothing
The baby could be doing fine, going
down the tubes, or something in
between

More information

- ❖ In the previous 24 hours, the baby had 2 black bowel movements
- What does this tell us?
- ❖ 6 wet, but only just moist, diapers

More history

- ❖ First pregnancy for 31 year old physician
- ❖ Pregnancy unremarkable
- ❖ Labour started spontaneously at 38 weeks and lasted 4 hours
- ❖ Mother received no pain medication
- ❖ Baby fine at birth, weight 3.07 kg (6 lb 12 oz)

Immediately after birth

- ❖ Baby not tried on the breast until a few hours after birth
 - Why on earth not?
 - Was the labour so long that the mother was exhausted?
 - Was there something wrong with the baby?
 - Was there something wrong with the mother?

How tiring is this?



In the postpartum...

- ❖ During the 24 hour postpartum hospital stay, the baby received sugar water once by cup
 - What was the idea of that?
- ❖ Discharged apparently nursing well
 - Really?

Sugar water by cup. Why?

- ❖ Did the mother get help with the latching?
 - She said that she didn't
 - Then giving the supplement was wrong
 - Did giving the sugar water prevent later problems?
 - If the baby was breastfeeding fine, then why the sugar water anyway?
- Supplements should be given by lactation aid, if truly necessary (should be rare)

First visit to clinic

- ❖ The baby is moderately jaundiced (why?)
- ❖ Weight 2.64 kg (5lb 13oz)
- ❖ Physical examination unremarkable
- ❖ Baby actually not latching on to the left breast (only pretending to latch on)
 - Easy to pull him off the breast even though he was awake and obviously hungry

$$2.64/3.07 \times 100 = 86\%$$

- ❖ The baby is down 14% from birth weight on day 4!!! We must supplement!
- Well, *no*, actually!
- Are scales always right? Are we sure the first weight was written down right?
- In fact, *from the history and evaluation*, the baby *does* need more milk, but *not necessarily formula*
- If we can get him to drink more breastmilk, why formula?
- Because we are comfortable with bottle feeding and formula? Yup, that's it!

What do we do?

- ❖ Wring hands, gnash teeth, cover our heads with ashes?
- You can do that, but it won't help much
- ❖ Fix the latch, that's what you do!
- Result?
- Baby took both sides and drank well
- Drank well?
- "Open mouth wide → *pause* → close mouth" type of sucking for several minutes (Videos)

That's all it took!
Really!

But to make sure...

- ❖ Use compression when the baby no longer drinks
- Once the baby no longer drinks, even with compression, switch sides
- Result? Baby drank longer and better

And to put everything on the mother and baby's side...

- ❖ If it had been today (this baby is now probably 12 years old), I might have suggested the mother use blessed thistle and fenugreek to increase milk ... but it was not necessary in any case

Mother's assessment

- ❖ The mother realized that the baby had *never* really breastfed before
- In other words, never really got milk from the breast
- Baby was "pretending" to breastfeed on the left side, and couldn't be bothered at all on the right

Followup

- ❖ Normally I would have seen the baby the next day, just to make sure, but this was not possible (conference out of town)
- ❖ Mother was offered LC follow-up, either by visit or by phone but did not take it up
- ❖ Mother had a clinic visit arranged for 4 days later

Second visit to the clinic

- ❖ Baby now latching on and drinking well, according to the mother
- Careful, mothers sometimes want it to work so much or didn't understand what we meant to show at the first visit (or even subsequent ones)
- Mother still had some soreness, but it was improving
- Baby's weight 2.8 kg (6lb 3oz)
- Baby visibly less jaundiced (why?)
- Baby drinks well at the breast !!

Longer term followup

- ❖ Baby still breastfeeding exclusively at 3 months of age and gaining weight well
- Mother initially had intended to return to her nephrology residency at 6 weeks postpartum and breastfeed only 6 weeks

A few questions

- ❖ What would have happened if this mother and her baby had gone to an emergency department?
- ❖ What if, at the clinic, the baby had not latched on well and drunk well?
- ❖ What if the baby did not latch on at all at the clinic?

What would have happened...?

- ❖ From an email
- She had lost a considerable amount of weight and was admitted into the (a world class paediatric hospital)
- She was put through a battery of various tests to determine what may have been the cause for such an amount of weight loss (1lb)
- *After four days of hospitalization, it was determined that I was not producing enough milk.* (my emphasis)
- Duh!!!

Case study #2

The tyranny of the scale

The tyranny of the scale

- ❖ Baby girl, 3 days of age, referred *urgently* because of excessive weight loss
- Second baby, first breastfed with supplements for 3 months
- Birth weight: 3.19 kg (7lb 3oz)
- Weight at discharge (about 30 hours of age): 3.054 kg (note the “4”) (6lb 11½oz)
- Weight at referring paediatrician’s office: 2.99 kg (6lb 9oz) (7.3% below birth weight)

The tyranny of the scale

- ❖ What does any of the preceding mean?
 - That’s right, nothing
- ❖ The paediatrician’s office is 3 floors below our clinic
- One hour later, we see the baby
- Weight on our scale: 2.91 kg (6lb 6oz)
- Question:
- Did this baby lose 80 g (3 ounces, well, actually 2.8070175439 ounces since 1 ounce = 28.5 g) in one hour?

The tyranny of the scale

- ❖ So what did we do?
 - We watched the baby at the breast
 - The baby breastfed beautifully, and was obviously taking in lots of milk
 - We fixed the latch so the mother had less pain
 - One week later, the baby weighs 3.29 kg or an increase of 380 g (13.333333 ounces)
 - Normally babies should gain only 200 g (7 ounces) a week
 - Should we cut back the feedings?

The tyranny of the scale

- ❖ How do we know the weight gain was legitimate?
 - Because we observed the baby at the breast at the second visit also
 - And she was taking in lots of milk
 - And she came off the breast satisfied

Case study #3

Something else going on here

Something else going on here

- ❖ Baby boy
 - Brought to the clinic at 16 days of age weighing 3.01 kg (6lb 10oz)
 - Baby born at 3.55 kg (7lb 13oz)
 - Mother breastfed 2 other children without problems for over 2 years

Labour, birth, delivery

- ❖ Nothing of note
- Some high sugars during the pregnancy, but no treatment required
- Labour lasted only 2 hours, no problems
- Baby was fine at birth

In hospital

- ❖ Breastfeeding initiated within an hour of birth
- ❖ Mother felt the baby nursed “so so”
- ❖ 24 hour rooming in
- ❖ No supplements given
- But maybe something should have been done...

More history

- ❖ Baby on breast only (no water etc)
- ❖ Baby on breast 6 times a day, two feedings of which are between midnight and six a.m.
- ❖ Baby stays on the breast for an hour
- ❖ Mother feeds both sides
- ❖ Mother has very sore nipples
- ❖ Baby is described as calm

Output

- ❖ 6 wet, but not soaking diapers/day
- ❖ 1-3 bowel movements/day, just starting to be yellow (remember, the baby is 16 days old—what does this mean?)
- ❖ Neither mother nor baby taking any medication

Observation of breastfeeding

- ❖ Baby is latched on poorly, perhaps not at all
- ❖ He comes off the breast very easily
- ❖ Drinks only a very little, only having the occasional pause in the chin

Physical examination

- ❖ No findings on physical examination, except that the baby is moderately jaundiced (why?)
- ❖ Urinalysis
 - microscopic: wbc +++, no casts
 - dipstick: wbc +++, nitrites strongly +
- ❖ Suprapubic urine grew *E. coli* >100,000 colonies/cc (known only after 48 hours)

Plan

- ❖ For UTI:
 - Baby given 7.5 mg gentamicin IM stat
 - Amoxicillin 62.5 mg tid for 10 days
- ❖ For breastfeeding:
 - Work on latch, use compression
 - Lactation aid tried, but couldn't manage, baby slipping off the breast when insertion attempted (what does this mean?)

So now what?

1. Breastfeed, then finger feed afterwards with expressed milk
2. Try to get the baby using the lactation aid at the breast
3. Follow-up by phone (difficulties arranging follow-up in person) and with the midwife

Second visit (16 days later)

- ❖ Baby weighs 3.235 kg (7lb 2oz) (not bad weight gain, but not terrific)
- Mother finger feeding after breast, mostly expressed milk, some formula
- Urine is normal on microscopy and dipstick
- Baby drinks better at the breast, but not great yet
- Difficult to get the lactation aid to work
- Mother has sore nipples

Third visit (1 week later)

- ❖ Baby weighs 3.41 kg (7lb 8oz), so up 175 g (6 ounces) over the previous week
- ❖ Starting to drink better at the breast, *much* better
- ❖ Mother is no longer supplementing

Fourth visit (2 weeks later)

- ❖ Baby weighs 3.795 kg (8lb 6oz) (increase of 14 ounces in 2 weeks)
- ❖ Breastfeeding only
- ❖ Baby breastfeeds beautifully
- ❖ VCUG, U/S kidneys is normal (done the day before)

Longer term followup

- ❖ At 8 months of age:
 - Baby is breastfeeding and taking solids (solids started a 6 months of age)
 - Weight is very good
 - Development is normal

Question

- ❖ Did the UTI cause poor weight gain and poor nursing? Or...
- ❖ Did poor weight gain and nursing set the baby up for developing an infection?

Case study #4

Poor latch, that's all

Poor latch, that's all

- ❖ Baby girl
 - First pregnancy, first born of 29 year old Canadian Indian (First Nation)
 - Pregnancy marked by high sugar and high blood pressure, but mild
 - Labour at term, lasted 7 hours
 - Born in good condition, weight 3.61 kg (7lb 15oz)

In hospital

- ❖ Tried on the breast within an hour of birth
- ❖ “Apparently” nursed well
- ❖ 24 hour rooming in
- ❖ Given sugar water once because “not urinating”
 - What's wrong with doing this?

First visit to clinic

- ❖ Baby is 14 days old
- ❖ Weight is 3.23 kg (7lb 1.5oz) [(birth weight 3.61 kg (7lb 15oz))]
- ❖ Baby “breastfeeding” only
- ❖ Baby on breast 6 to 7 times a day, once between midnight and six a.m.
- ❖ Baby stays on breast for an hour
- ❖ Mother feeds both sides/feeding

More history

- ❖ No pacifier being used
- ❖ Baby having very infrequent bowel movements (every couple of days)
- ❖ Baby having 3 “soaked” diapers/24 hours
- ❖ Neither mother nor baby on medication

Evaluation of breastfeeding

- ❖ On physical examination, no abnormalities
- ❖ Baby latched on poorly, but nevertheless drinks a little
- ❖ Intake improved by
 - improving the latch
 - use of compression

Plan

1. Reassure the mother that things should go well
2. Make sure mother knows how to latch the baby on and knows how to know the baby is actually drinking
3. Use compression once baby does not drink on her own
4. Lactation aid as backup (family doctor on mother's case)
5. LC for follow-up and return to clinic in 1 week

One week later

- ❖ Mother feels things are going better
- ❖ Increased urine output
- ❖ Bowel movements started 2 days after visit and are now plentiful
- ❖ Baby weighs 3.46 kg (7lb 10oz) [3.23 kg (7lb 1.5oz) one week before]
- ❖ Baby breastfeeds well ("open mouth wide→*pause*→close mouth" type of sucking)

Notes

- ❖ Response in postpartum was *inadequate*
 - baby urinated: was the problem fixed?
- ❖ Babies may be calm and still not gain well
- ❖ Sleeping "well" at night may not be good
- ❖ Bowel movements are a good indication of intake
- ❖ Being on the breast is not the same as breastfeeding!!!

Followup

- ❖ Baby is breastfeeding exclusively at 6 months
- ❖ No problems after the fixing the latch and helping mother understand how breastfeeding works

If the mother had started supplementing, as the doctor was pushing her to do, would it have been as easy to fix this problem?

Case study #5

Late referral

Slow gain, late referral

- ❖ Mother:
 - 29 years old, Caucasian, good health
- ❖ Pregnancy:
 - First pregnancy, no complications
 - Mother said her breasts did not enlarge during the pregnancy
- ❖ Birth:
 - At home, at 38 weeks gestation, no problems

Postpartum course

- ❖ Baby weighed 3.21 kg (7lb 1oz)
- ❖ Tried at the breast at about 1 hour after birth
- ❖ Did not latch well, sleepy
- ❖ Was lethargic first few days
- ❖ Lost more than 10% weight in the first few days (what does this mean?)

First clinic visit

- ❖ Baby is 37 days old
- ❖ Baby's weight is 3.41 kg (7lb 8oz) (at birth, 3.21 kg or 7lb 1oz)
- ❖ Thin, but otherwise examination normal
- ❖ Urine normal, but specific gravity 1015
- ❖ Baby has a poor latch
- ❖ The baby drinks okay, occasionally well

Usual plan for this baby too

1. Fix latch
2. Observe baby at the breast
3. Use compression when baby doesn't drink on his own
4. When compression no longer works, change sides and repeat and even switch back and forth
5. Use fenugreek and blessed thistle

Second clinic visit

- ❖ Baby is 44 days old
- ❖ Baby weighs 3.515 kg (7lb 12oz) (was 3.41 kg or 7lb 8oz on previous visit, one week before)
- However:
 - ❖ Baby breastfeeds *much better!*
- Plan?
 - ❖ Keep going as above

Third clinic visit

- ❖ Baby is 72 days old (4 weeks after second visit)
- ❖ Baby weighs 4.42 kg (9lb 12oz) (was 3.515 kg or 7lb 12oz 4 weeks before)
- ❖ Baby drinks *very* well at the breast
- ❖ Baby content, mother happy

What went wrong?

- ❖ 10%? If we are going to obsess about numbers, we should do something (not necessarily supplement)
- ❖ The midwife should have known by the end of the week something was wrong (by observing the breastfeeding) and if she couldn't fix the problem, she should have referred *then* not 4 weeks later

Supportive of breastfeeding?

- ❖ A health care professional cannot be said to be supportive of breastfeeding if s/he is going to give feeding advice but:
 - does not learn how to know a baby is getting milk at the breast
 - does not observe a baby at the breast and depend on observation of the breastfeeding rather than the scale alone
 - does not refer if s/he doesn't know how to fix the problem

Case study #6

I sweated for a while

Mother

- ❖ 31 years old, Caucasian, stable relationship, reasonably supportive family, head of nursing for public health department
- ❖ P1G1, normal pregnancy (except for false positive alpha fetal protein)
- ❖ Labour at 37 weeks, no problems

Baby

- ❖ Born after 3 hours of labour in good condition
- ❖ Started "breastfeeding" within an hour of birth
- ❖ Birth weight 2.9 kg (6lb 7oz)
- ❖ Discharge weight 2.73 kg (6 lb) (24 hours)
- ❖ Sugar water given once by cup. This issue again!

First clinic visit

- ❖ Baby is 10 days old
- ❖ Baby thin and fairly jaundiced
- ❖ Weight 2.595 kg (5lb 11oz) (birth weight 2.9 kg (6lb 7oz))
- ❖ Poorly positioned and poorly latched on
- ❖ Getting some milk but not much
- ❖ What did we do?
- If you don't know by now, it's hopeless

Why the jaundice?

- ❖ *Poor intake of milk!*
 - increased enterohepatic circulation of bilirubin
- Interestingly, most babies breastfeeding exclusively but *not* gaining weight after the first week are usually *not* jaundiced
- Most babies who are exclusively breastfeeding and gaining weight well *are* jaundiced after the first week of life—this is *normal* (of course pathologic reasons for jaundice may exist, and sometimes babies who are gaining poorly are also jaundiced)

What to do?

- ❖ If the baby drinks very well, then have confidence the baby will gain (of course, the mother sometimes doesn't get it, and the baby nurses well at the clinic and then not well at home).
- See mother and baby again soon
- ❖ If the baby drinks poorly, even with the better latch, compression, switching, you may have to use a lactation aid to supplement
- ❖ If the baby is in between see mother and baby again soon (1 to 2 days)

This baby was in between

- ❖ So I saw the baby again 4 days later
- The baby is 14 days old
- Weight (on different scale) is 2.61 kg (not much change from 2.595)
- The baby is drinking better (observation) than a few days ago, so one can be reassured that the baby won't get into trouble over the next few days

Third clinic visit

- ❖ Baby is 17 days old
- ❖ Weight 2.675 kg (5lb 14oz) (2.595 kg or 5lb 11oz one week before)
- ❖ Urine was normal
- ❖ The baby drinks better, but...
- ❖ Even so, I'm beginning to sweat

Fourth clinic visit

- ❖ Baby is 24 days old
- Weight is 2.845 kg (6lb 4oz) (2.675 kg or 5lb 14oz one week before)
- That's better and this is confirmed by observation of the baby at the breast
- Mother *still* doesn't have the latch right
- Starting to breathe easier (me)

Fifth clinic visit

- ❖ Baby is 31 days old
- Weight is 3.09 kg (6lb 13oz) (2.845 kg or 6lb 4oz one week before)
- Baby drinking well at the breast
- Baby content
- Baby still a bit jaundiced, but jaundice is lessening

Further followup

- ❖ Baby continued to do well on breastfeeding alone
- ❖ Heard from public health nurses that the mother was breastfeeding exclusively until went back to her job at about 4 months after the baby's birth (second hand info)

Birth weight

- ❖ Birth weight is not a sort of “holy grail” which somehow must be achieved within a certain time
- It is a “landmark” which guides us
- We start “today” and the fact that the baby is not up to birth weight by day n does not mean supplementation is necessary
- This baby did not get back to birth weight until 24 days of life and started gaining without supplementation

Pattern

- ❖ This baby showed a fairly typical pattern
- Presents at 2 or 3 weeks of age
- 250 to 450 grams (1/2 to 1 pound) below birth weight
- Poorly latched on, drinking a little, but not much
- Fixing the breastfeeding leads initially to weight loss becoming steady weight for a week or two, then rise in weight

Sugar water by cup

- ❖ The nurse who gave the baby sugar water in a cup would probably say she was supportive of breastfeeding because
- She didn't use formula and
- She used a cup and not a bottle
- But the problem was not fixed!!
- The baby lost weight!!
- This is *not* supportive or helpful
- It's a quick fix, and in fact, it's *not* quick and *not* a fix

Case study #7

Using a lactation aid

Not enough milk

- ❖ Pregnancy and Birth
 - Mother 29 years old, Portuguese origin
 - First pregnancy, no problems
 - No breast changes during the pregnancy
 - Spontaneous labour at 40 weeks
 - Baby
 - Well at birth, 4.09 kg (9lb), tried on the breast immediately and *apparently* latched on well

In hospital

- ❖ 24 hour rooming in
- ❖ No supplements given, apparently
- ❖ Mother and baby in hospital 48 hours
- ❖ Apparently all going well

First clinic visit

- ❖ Baby is 13 days old, weighs 4.245 kg (9lb 5oz) (birth weight 4.09 kg or 9lb)
- Supplemented since day 3 because not latching (getting 4-5 oz of formula *each feed*)
- Why did he “stop” latching on on day 3?
- Seen at another clinic where finger feeding started (3 or 4 days before)
- Baby has started to take breast past day or two

At the clinic

- ❖ Normal physical examination
- ❖ Urine normal
- ❖ Observation of feeding
 - Mother helped with latching on (sore) → feeding less painful
 - Baby nurses not badly at all
 - You know what we suggested
 - you'd *better* know

In addition

- ❖ After the baby has nursed at least both sides (with compression to keep the baby going)
- ❖ Introduce lactation aid tube and allow baby to drink *as much as the baby will take*
- Do not limit supplement but do not force either



Second clinic visit

- ❖ Baby is 20 days old
- Weight is 4.53 kg (10 lb) [last visit, one week before, baby was 4.245 kg (9lb 5oz)]
- Mother is supplementing 4-5 oz of formula/ *day*
- Mother complaining baby waking frequently to feed
- But baby nurses very well, and mother is no longer sore

Follow-up

- ❖ Letter I received:
 - “J. is just turning 4 months, the last 3 of which he has been solely breastfeeding. He now weighs over 16lb. We are both very well now. I love breastfeeding! I never thought it could be so easy and so rewarding”

More follow-up

- ❖ Phone call when baby was 6 months old asking about introducing solids
- ❖ Phone call when child was 3 years old asking about information received from dentist about weaning because of possible problems with teeth

Notes

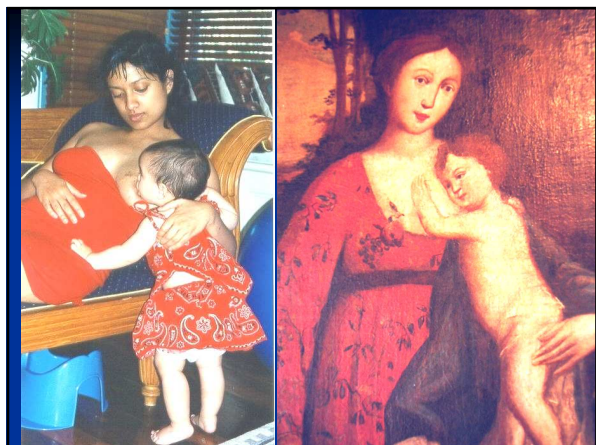
1. Absence of breast changes during pregnancy does not mean the mother will have insufficient milk
2. I had no confidence this mother would succeed
 - Odd social situation
 - Very passive mother, overwhelmed
 - *Seemed* to have no commitment to breastfeeding

And if it hadn't worked so well?

- ❖ I would probably have suggested the mother take domperidone
 - But domperidone is *not* a magic bullet, and she may still have needed to supplement
- ❖ So would I have suggested she move on to a bottle at some point?
- No, even though some mothers do, I think it better they not

Why not?

1. Babies learn to breastfeed by breastfeeding
2. Mothers learn to breastfeed by breastfeeding
3. The baby still gets milk from the breast even when being supplemented
4. If the mother is truly not producing enough milk, the baby will not reject the breast
5. And, perhaps the most important?
 - there is *more* to breastfeeding than breastmilk!



Case study #8

Finger feeding and lactation aid

Finger feeding and lactation aid

- ❖ Baby referred by family doctor for poor gain
- ❖ Mother is 27, Caucasian, P2G3 (intrauterine death at 36 weeks)
 - Breastfed first child 8 months without problems
 - Pregnancy unremarkable
 - Labour at 38+ weeks
 - Mother received gas inhalation for pain

In hospital

- ❖ Baby well, birth weight 3.18 kg (7lb)
- ❖ Tried on breast at birth but did not nurse well
- ❖ No supplements given
- ❖ Discharged on day 3 with weight of 2.84 kg (6lb 4oz)

First clinic visit

- ❖ Baby is 30 days old, weight 2.895 kg (6lb 6oz) (Birth weight 3.18 kg or 7lb)
- ❖ Baby is thin, but otherwise physical examination is normal
- ❖ Latched on poorly, hardly drinking and sucks poorly

Plan

- ❖ Finger feeding to train suck, a minute or two before each feeding
- ❖ Get the best latch possible, use compression once baby no longer nurses on his own, and then switch and repeat
- ❖ Lactation aid to supplement (EBM preferably or formula)
- ❖ Return in one week



Video of finger feeding

Second clinic visit

- ❖ Baby is 37 days old
- ❖ Baby weighs 3.375 kg (7lb 7oz) [2.895 kg (6lb 6oz) one week before]
- ❖ Mother using about 180 ml (6oz) formula/day as well as some expressed milk
- ❖ Baby still not drinking as well as she should
- ❖ Continue and return in two weeks

Third clinic visit

- ❖ Baby is 51 days old
- ❖ Baby weighs 3.745 kg (8lb 4oz) [3.375 kg (7lb 7oz) two weeks before]
- ❖ Baby drinks much better
- ❖ Mother using about 150 ml (5 oz) formula/day
- ❖ Return in one week to check weight

Fourth clinic visit

- ❖ Baby is 58 days old
- ❖ Breastfeeding only for the past week
- ❖ Weighs 3.99 kg (8lb 12.5oz) [3.745 kg (8lb 4oz) one week before]
- ❖ Baby drinks very well

Case study #9

Mother of twins who should not have had problems

Twins

- ❖ Twins girls born at 33 weeks gestation
- ❖ Normal delivery
- ❖ Mother breastfed a previous child 7 months without problems
- ❖ MH born at 2.02 kg (4lb 7oz), VH born at 1.6 kg (3lb 8oz)
 - They are relatively big babies
- ❖ No medical problems at all in hospital
- ❖ The twins in hospital 5 weeks total, 3 weeks in one, then 2 weeks in another hospital

Feeding in hospital

- ❖ Intravenous for first 4 days
- ❖ Formula started early, nasogastric feedings at first
- ❖ Bottles started within the first week
- ❖ Breastfeeding only attempted after several weeks (mother not sure exactly when)
- ❖ Pumping started in hospital but mother not sure when (not within first days)

What's wrong with that?

- ❖ The mother should have started expressing immediately (but it was not encouraged)
- ❖ No kangaroo mother care
- ❖ The babies could have been tried on the breast as soon as it was obvious they were stable (<24 hours in this case)
- ❖ Cup feeding would have been preferable to bottles and even to ng feedings
- ❖ Formula was not necessary in the first days

On discharge from hospital

- ❖ Mother was essentially bottle feeding both babies, with babies taking the breast a little on the left, refusing the right side completely
- ❖ Each feeding consisted of approximately 60 ml (2oz) of formula with 30 ml (1oz) of expressed milk

First visit to our clinic

- ❖ The babies are 83 days old
- ❖ MH weighs 3.35 kg (7lb 6oz)
 - birthweight was 2.02 kg (4lb 7oz)
 ⇒ weight gain 16 g/day, well below intrauterine growth rate
- ❖ VH weighs 3.25 kg (7lb 2oz)
 - birthweight was 1.6 kg (3lb 8oz)
 ⇒ weight gain 20 g/day, better but still below intrauterine growth rate

Intra-uterine growth rate

- ❖ The “experts” say that premature babies need to grow at intra-uterine growth rates of 12 to 16 grams/kg/day
- *Nutrient needs and feeding of premature babies.* Statement of the Canadian Paediatric Society, 1995

Intra-uterine growth rate

- ❖ Therefore, when they left the hospital, according to this standard:
 - MH should have weighed 2.85 kg (6lb 6oz)
 - VH should have weighed 2.27 kg (5lb even)
- ❖ This is using the *lower* 12 g/kg/day and not even taking into consideration the increasing weight with time

What does this mean?

- ❖ If they had, in fact, grown at 12 g/kg/day:
 - MH would have gained only 140 g (5oz) since discharge from the hospital 5 weeks before
 - VH 710 g (1lb 9oz) in the same time
- ❖ So two possibilities:
 1. They didn't grow at intra-uterine growth rates in hospital (which is the likely answer, despite all the fortifier and preterm formula they received)
 2. They didn't grow well since leaving hospital despite being mostly formula fed, and shouldn't we be concerned about that?

What does this mean?

- ❖ As long as babies are formula fed, we don't seem to worry too about intrauterine growth rate
- ❖ We probably believe that we're doing the best that can be done
 - because formula is the best
- ❖ If the babies were strictly breastfed or breastmilk fed:
 - We have to do something!

After 4 visits to our clinic over 3 weeks

- ❖ MH weighs 4.02 kg (8lb 14.5oz)
 - Increase of 530 g (1lb 3oz)
- ❖ VH weighs 3.81 kg
 - Increase of 460 g (1lb even)
- ❖ They are getting 120 cc/day (about 4oz) of supplemental formula a day or ± 60 cc/baby/day
- ❖ Both are breastfeeding beautifully

Let's look at the weights

- ❖ Did they gain enough, on *almost* exclusive breastfeeding?
- MH gained: $530/21=25$ g/day
- VH gained: $460/21=22$ g/day
- ❖ At this age (12 weeks of age), it's just fine!
- ❖ Do we really truly need to check weight gain/day?
- ❖ Nobody seemed to be worried that the weight gain was not up to intra-uterine rates when they were being supplemented with formula, were they?

After 5 weeks of help in our clinic, with the mother obviously very determined, babies are exclusively breastfeeding and gaining weight well



Case study #10

Dehydration in a “breastfed” baby

History

- ❖ First pregnancy, slightly increased blood pressure (not treated)
- ❖ Mother said she had breast changes during pregnancy
- ❖ Labour 38 weeks, lasted 4 hours
- ❖ Baby and mother fine at birth
- ❖ Baby weighs 3.38 kg (7lb 7oz)

In hospital

- ❖ Baby tried on the breast at birth but did not latch on
 - ❖ Problems with latching on in hospital, but eventually baby “does take the breast”
 - ❖ Sugar water supplements given
 - ❖ Rooming in except first night but baby brought for feedings (is this rooming in?)
 - ❖ Discharge weight at 48 hours 3.09 kg (6lb 13oz)
 - That's only 6% weight loss
- should we be reassured?

First clinic visit

- ❖ Baby is 11 days old, referred by family doctor
- ❖ Baby is thin, wasted, weighs 2.4 kg (5lb 5oz) (birth weight is 3.38 kg)
- ❖ On the breast 12 times/day an hour at a time
- ❖ Mother feels baby swallows at the breast
- ❖ Mother says she leaks milk sometimes
- ❖ Baby is having a small dark bowel movement every 3 days, but *soaks* 8 diapers a day

Observation of a feeding

- ❖ Mouth around nipple but baby slips off
- ❖ No drinking at all that I could see on either side
- ❖ So, is this baby breastfeeding 12 times a day for an hour?

So what did we do?

- ❖ Baby wouldn't latch on and drink
- ❖ Baby wouldn't latch on with lactation aid either
→so finger feeding instituted
- ❖ Baby drank 30 ml of artificial baby milk (formula)

Next day

- ❖ Mother says baby is taking more and more formula and seems better (this was done by telephone)
- ❖ Baby followed each day by telephone contact with mother (impossible for her to get out to clinic)

Second clinic visit-4 days later

- ❖ Baby is 15 days old
- ❖ Weight is 2.715 kg (slightly less than 6lb)
 - Weight 4 days earlier was 2.4 kg
- ❖ Baby is finger feeding only
- ❖ Baby seems better, better colour, more alert

Third clinic visit-3 days later

- ❖ Baby is 18 days old
- ❖ Baby starting to take the right breast (started the day before)
- ❖ Weight today is 2.9 kg (6lb 6oz)
- ❖ Weight 3 days before was 2.715 kg

Fourth clinic visit-1 week later

- ❖ Baby is 25 days old
- Taking both breasts now (*really* latching on, not just pretending) and actually shows some *drinking*, though not a lot
- Supplementing now almost completely at breast with lactation aid (not finger feeding), about 240-340 cc (8-12oz)/day
- Weight 3.23 kg (7lb 2oz)
- 2.9 kg the week before

Fifth clinic visit-9 days later

- ❖ Baby is 34 days old
- Supplement is now 120-150 ml (4-5 oz/day) of formula
- Baby spends a lot of time *not* drinking (nibbling) at breast, though much more drinking than previously
- Weight 3.75 kg (8lb 4oz)
- 3.23 kg 9 days before

Sixth clinic visit-15 days later

- ❖ Baby is 49 days old
- Almost no supplement
- Weight today 4.0 kg (8lb 13oz)
- 3.75 kg 15 days before
- Weight gain not great, but acceptable
- More important than the scale is that the baby really breastfeeds well now—she gets milk while on the breast, a lot

Seventh clinic visit-2 weeks later

- ❖ Baby is 63 days old
- Exclusively breastfed since last visit
- At clinic, baby breastfeeds very well
- Weight today 4.425 kg (9lb 8oz)
- 4.0 weeks before
- Discharged from clinic with option to return if concerned or contact clinic

Longer term followup

- ❖ Baby nursed to almost 1 year
- ❖ Weighed 10kg+ (over 22lb) at 1 year
- ❖ Development normal
- Information taken by telephone as family moved away from Toronto

“Help” in hospital

- ❖ Hospital staff mistook the baby’s allowing the breast into her mouth for latching on
- ❖ Staff spent a long time trying to help the mother but did not have the skills or experience to know the baby was not drinking
- ❖ No follow up was arranged!

Education of the mother

1. Did not know the baby was not latched on
2. Did not know how to know the baby was drinking (remember the “swallowing”?)
3. Did not realize the significance of the baby’s having infrequent bowel movements
 - actually was somewhat concerned, but friends said this was “normal” for breastfed babies
4. Did not understand the difference between “being on the breast” and “breastfeeding”

Numbers and breastfeeding

- ❖ A baby who breastfeeds *well* 5 times a day is better off than a baby who is on the breast but *not* breastfeeding 12 times a day
- A baby who feeds well will wake up when he’s hungry
- A baby who gets nothing 8 times a day is not better off than a baby who gets nothing 6 times a day

Case study #11

Back to basics

A much too typical case

- ❖ A mother brings her baby to the clinic when the baby is 10 days old
- Not gaining
- Birth weight 3.55 kg (7lb 13oz)
- Weight at the clinic today 3.05 kg (6lb 11oz)

Mother

- ❖ 27 years old, of Hispanic origin (born in Ecuador)
- ❖ First pregnancy, not planned, but desired, and no medical problems
- ❖ Birth at 38 weeks gestation, after 9 hours of labour without anaesthetic or analgesia

Baby

- ❖ A girl, born without problems
- ❖ Birth weight 3.55 kg (7lb 13oz)
- ❖ First try at the breast about an hour after birth
- ❖ No supplements in hospital, no separation of mother and baby

Discharged at 24 hours

- ❖ No supplements given since discharge
- ❖ The baby is at the breast every 2 to 3 hours during the day, twice between midnight and 6 a.m.

Sounds perfect, right?

- ❖ No interference in hospital
- ❖ Numbers exactly right
- Or are they?

Other numbers

- ❖ 5 wet, but not soaking diapers each day
- ❖ No bowel movements at all for 6 days
- ❖ Is this okay?

More information

- ❖ The baby takes the breast, sucks a short period of time (seconds), then pulls away, takes the breast again, pulls away
- ❖ The baby also tends to fall asleep at the breast

Pædiatric advice

- ❖ The pædiatrician, who advises on pædiatric problems for a medical journal to which physicians write in order to ask questions, says to the mother that it is normal for a breastfed baby not to have a stool for 6 days (according to the mother)

Vitamin D

- ❖ The baby takes vitamin D
- A good thing that we didn't forget the vitamin D
- What does this tell us about what pædiatricians learn in their training about breastfeeding?

Now what do we do?

- ❖ Do we tell the mother to supplement?
- ❖ Do we tell the mother to just stop breastfeeding altogether?
- ❖ Do we tell the mother it's fine, just carry on, but make sure the baby gets the vitamin D?
- ❖ Refer to a Failure to Thrive clinic or admit to hospital?

We watch the baby at the breast!!

And what do we see?

- ❖ The baby takes only the nipple in her mouth
- ❖ She lets go of the breast very easily
- ❖ The baby falls asleep at the breast almost immediately
- ❖ Or sucks a couple of times then pulls off
- ❖ But after we help the baby latch on well, she drinks well, and gets milk well!

Rocket science?

- ❖ Not in this case, it was easy, a piece of cake
- Even a paediatrician could have managed to show the mother this (if he had known how)
- This paediatrician (me) was able
- How many paediatricians actually know how help a mother latch a baby on well?

Before sending the mother and baby home

- ❖ We teach the mother:
 - How to latch the baby on well
 - How to know the baby is getting milk
 - How to use compression
 - To change sides when the baby no longer drinks
 - To change back and forth as long as the baby *drinks* reasonable amounts

And what else?

- ❖ We cannot leave this young mother and baby at the mercy of health professionals who think that a 10 day old is fine even if she hasn't had a bowel movement for 6 days (in fact *never* had a *breastmilk* stool)
- ❖ She and the baby were seen by one of our lactation consultants the next day, and by me 3 days after that

At 14 days of age

- ❖ The baby weighs 3.21 kg (up 170 grams in 4 days)
- But it is a different scale than the one which weighed her at 3.05 kg
- More important than the scale!
- The baby drinks well when she is on the breast

But...

- ❖ The mother complains of sore nipples
 - Why does she have sore nipples?
- She got the baby latched on, but not as well as she could have
- So, maybe it's best to take the baby off the breast for a couple of days to help the nipples heal?

Treatment

- ❖ How would that help the latch?
- Don't even think about it!
- *Adjust the latch*, and,
- I prescribe for her all purpose nipple ointment

All purpose nipple ointment

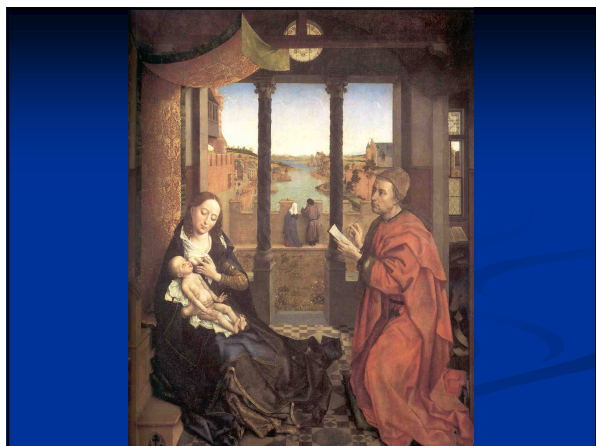
1. Mupirocin 2% ointment: 15 grams
 2. Nystatin ointment: 15 grams (*now changed to miconazole powder to final concentration 2%*)
 3. Betamethasone 0.1% ointment: 15 grams
- See the information sheet on the "all purpose nipple ointment" at the website www.nbci.ca

Last visit

- ❖ The baby is 17 days old
- The baby weighs 3.415 kg on the same scale as 7 days before
- 3.05 kg 7 days before (405 g = 14 oz)
- The baby drinks well
- The mother has almost no nipple pain

Final instructions

- ❖ Keep in touch, but you don't have to return
- ❖ You know what you need to know
- ❖ Of course, we are happy to see you again if you feel you need the visit, but you should do just fine and so should your baby



Contact information

- ❖ My email: drjacknewman@sympatico.ca
- ❖ Our website: www.nbci.ca allows free access and contains:
 - information sheets in English and French
 - video clips with explanatory texts in English, French, Spanish, Chinese, Russian, and Portuguese and soon in Arabic and German
 - information about our teaching institute, including amongst many other programmes, a diploma course (click “institute” for more information)